

CLAIMS

What is claimed is:

- 5    1.            A broadhead for mating with an arrow, comprising:  
  
                 a plurality of blades shiftable between a retracted, in flight position and an  
extended, penetrating position, each of the blades being rearwardly longitudinally  
translatable from the retracted, in flight position to the extended, penetrating  
position, each of the blades residing at least in part in a respective blade recess  
10       defined in a broadhead body when in the retracted, in flight position, longitudinal  
translation of the plurality of blades effecting a camming action of a blade cutting  
edge of each blade outward relative to the broadhead body.
2.            The broadhead of claim 1, each of the plurality of blades having a mass reducing  
15       retaining slot defined therein, a retaining device being disposed therein for shiftablely coupling the  
respective blade to the broadhead body.
3.            The broadhead of claim 2, the respective slots being arcuate in shape.
- 20       4.            The broadhead of claim 2, the respective slots having a shape defined by a  
substantially straight side and by a curved side.

5. The broadhead of claim 2, the respective slots and respective retaining devices cooperating to at least in part effecting the outward camming action of the blades during rearward longitudinal translation thereof.

5 6. The broadhead of claim 1 including a tip blade operably coupled to a penetrating end of the broadhead body.

7. The broadhead of claim 6, the tip blade having a pair of cutting edges.

10 8. The broadhead of claim 7, the tip blade cutting edges being curved and intersecting at a leading point.

9. The broadhead of claim 7, the tip blade cutting edges extending radially outward relative to a penetrating end external margin.

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10. The broadhead of claim 1 having at least three blades.

11. The broadhead of claim 1, each of the blades having a camming edge operably coupled to the cutting edge and an impact edge operably coupled to the cutting edge.

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12. The broadhead of claim 11, the respective impact edges being presented at least in part external to the broadhead body when the respective blades are in the retracted, in flight position.

5 13. The broadhead of claim 12, a rearward directed longitudinal force exerted on the portion of the respective impact edges presented external to the broadhead body acting to translate the respective blades rearwardly longitudinally to the extended, penetrating position.

14. The broadhead of claim 1, the respective blade recesses each being a slot having a  
10 first inlet and a second inlet disposed on either side of a bridge.

15. The broadhead of claim 1, the respective blade recesses each being a groove having a first inlet and a blind bottom margin.

15 16. The broadhead of claim 1, the respective blade recesses each being offset from a broadhead body longitudinal axis.

17. The broadhead of claim 1, the respective blade recesses each being offset from a broadhead body longitudinal axis and parallel thereto.

20 18. The broadhead of claim 1, the respective blade recesses each being offset from a broadhead body longitudinal axis and angled with respect to the longitudinal axis.

19. The broadhead of claim 1, the respective blade recesses each being angled with respect to the longitudinal axis and intersecting the longitudinal axis.

5 20. The broadhead of claim 1, the respective blade recesses each being radially disposed relative to a broadhead body longitudinal axis.

21. A method of expanding an expandable broadhead, comprising:  
disposing each of a plurality of blades at least in part in a respective blade  
10 recess defined in a broadhead body when in a retracted, in flight position;  
rearwardly longitudinally translating each of the blades from the retracted,  
in flight position to an extended, penetrating position; and  
effecting a camming action of a blade cutting edge of each blade outward  
relative to the broadhead body by means of the longitudinal translation of each of  
15 the plurality of blades.

22. The method of claim 21, including defining a mass reducing retaining slot in each of the plurality of blades and disposing a retaining device in the respective slots for shiftably coupling the respective blade to the broadhead body.

20 23. The method of claim 22, including forming the respective slots in an arcuate shape.

24. The method of claim 22, including forming the respective slots in a shape defined by a substantially straight side and by a curved side.

5 25. The method of claim 22, including at least in part effecting the outward camming action of the blades during rearward longitudinal translation thereof by cooperative action of the respective slots and respective retaining devices.

26. The method of claim 21 including operably coupling a tip blade to a penetrating  
10 end of the broadhead body.

27. The method of claim 26, including forming a pair of cutting edges on the tip blade.

15 28. The method of claim 27, including forming the tip blade cutting edges curved and intersecting at a leading point.

29. The method of claim 27, including extending the tip blade cutting edges radially outward relative to a penetrating end external margin.

20 30. The method of claim 21, including disposing at least three blades at least in part in a respective blade recess defined in a broadhead body.

31. The method of claim 21, including, on each of the blades, defining a camming edge and operably coupling the camming edge to the cutting edge and an impact edge and operably coupling the impact edge to the cutting edge.

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32. The method of claim 31, including presenting the respective impact edges at least in part external to the broadhead body when the respective blades are in the retracted, in flight position.

10 33. The method of claim 32, including exerting a rearward directed longitudinal force on the portion of the respective impact edges presented external to the broadhead body acting to translate the respective blades rearwardly longitudinally to the blade extended, penetrating position.

15 34. The method of claim 21, including forming the respective blade recesses as a slot having a first inlet and a second inlet disposed on either side of a bridge.

35. The method of claim 21, including forming the respective blade recesses as a groove having a first inlet and a blind bottom margin.

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36. The method of claim 21, including forming the respective blade recesses offset from a broadhead body longitudinal axis.

37. The method of claim 21, including forming the respective blade recesses offset from a broadhead body longitudinal axis and parallel thereto.

5 38. The method of claim 21, including forming the respective blade recesses offset from a broadhead body longitudinal axis and angled with respect to the longitudinal axis.

39. The method of claim 1, including forming the respective blade recesses angled with respect to the longitudinal axis and intersecting the longitudinal axis.

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40. The method of claim 1, including forming the respective blade recesses radially disposed relative to a broadhead body longitudinal axis.